CLAIMS

1. A platen for use in chemical mechanical planarization (CMP) systems, comprising:

a platen plate having at least one recess defined therein, the at least one recess having an input port formed therein; and

a porous material disposed in the at least one recess, the porous material having a porosity sufficient to restrict air flow therethrough so as to reduce an amount of air required for a CMP operation.

2. A platen for use in chemical mechanical planarization (CMP) systems as recited in claim 1, wherein the porous material is comprised of one of a ceramic material, an aluminum-based material, stainless steel, a nickel-based material, and a titanium-based material.

3. A platen for use in chemical mechanical planarization (CMP) systems as recited in claim 1, wherein the porous material has a pore size of between about 10 microns and about 100 microns.

4. A platen for use in chemical mechanical planarization (CMP) systems as recited in claim 1, wherein the porous material has a pore size of between about 25 microns and about 45 microns.

5. A platen for use in chemical mechanical planarization (CMP) systems as recited in claim 1, wherein the recess defined in the platen has an annular shape.

6. A platen for use in chemical mechanical planarization (CMP) systems as recited in claim 5, wherein the porous material has an annular shape that is configured to be received in the annular shaped recess.

7. A platen for use in chemical mechanical planarization (CMP) systems as recited in claim 1, wherein a single recess is defined in a central region of the platen plate and a plurality of recesses is defined in a peripheral region of the platen plate.

8. A platen for use in chemical mechanical planarization (CMP) systems as recited in claim 7, wherein the plurality of recesses includes six recesses, each of the six recesses having an input port formed therein.

9. A platen for use in chemical mechanical planarization (CMP) systems, comprising:

a platen plate having a recess defined in a central region of the platen plate and a plurality of recesses defined in a peripheral region of the platen plate, the recess in the central region and each of the plurality of recesses defined in the peripheral region having an input port therein, the recess defined in the central region and each of the plurality of recesses defined in the peripheral region having an annular shape; and

a plurality of annular sections, one of the annular sections being disposed in the recess defined in the central region of the platen plate and the other of the annular sections being disposed in the plurality of recesses defined in the peripheral region of the platen plate, each of the plurality of annular sections being comprised of porous material having a porosity sufficient to restrict air flow therethrough so as to reduce an amount of air required for a CMP operation.

10. A platen for use in chemical mechanical planarization (CMP) systems as recited in claim 9, further comprising:

a mounting plate coupled to a bottom portion of the platen plate, the mounting plate being configured to transport air from an air input at a bottom portion of the mounting plate to an input port in the recess defined in the central region and to an input port in each of the plurality of recesses defined in the peripheral region.

11. A platen for use in chemical mechanical planarization (CMP) systems as recited in claim 9, wherein the porous material is comprised of one of a ceramic material, an aluminum-based material, a nickel-based material, stainless steel, and a titanium-based material.

12. A platen for use in chemical mechanical planarization (CMP) systems as recited in claim 9, wherein the porous material has a pore size of between about 10 microns and about 100 microns.

13. A platen for use in chemical mechanical planarization (CMP) systems as recited in claim 9, wherein the porous material has a pore size of between about 25 microns and about 45 microns.

14. A platen for use in chemical mechanical planarization (CMP) systems as recited in claim 9, wherein the plurality of recesses in the peripheral region of the platen plate includes six recesses, each of the six recesses having an input port.

15. A method for supplying air to an underside of a polishing belt in a chemical mechanical planarization (CMP) system, comprising:

providing a platen proximate to an underside of a polishing belt, at least a portion of the platen being formed of a porous material having a porosity sufficient to restrict air flow therethrough so as to reduce an amount of air required for a CMP operation; and

flowing air through the porous material to the underside of the polishing belt.

16. A method for supplying air to an underside of a polishing belt in a chemical mechanical planarization (CMP) system as recited in claim 15, wherein the porous material has a pore size of between about 10 microns and about 100 microns.

17. A method for supplying air to an underside of a polishing belt in a chemical mechanical planarization (CMP) system as recited in claim 15, wherein the porous material has a pore size of between about 25 microns and 45 microns.

18. A method for supplying air to an underside of a polishing belt in a chemical mechanical planarization (CMP) system as recited in claim 15, wherein the operation of providing the platen includes providing a platen that has an annular section of the porous material in a central region thereof and a plurality of annular sections of the porous material in a peripheral region thereof.

19. A method for supplying air to an underside of a polishing belt in a chemical mechanical planarization (CMP) system as recited in claim 18, wherein the operation of flowing air includes flowing air through the annular section of porous material in the central region and the plurality of annular sections of porous material in the peripheral region of the platen.

20. A method for supplying air to an underside of a polishing belt in a chemical mechanical planarization (CMP) system as recited in claim 19, wherein the flow of air through the annular section of porous material in the central region of the platen and the flow of air through each of the plurality of annular sections of porous material in the peripheral region of the platen are individually controlled.